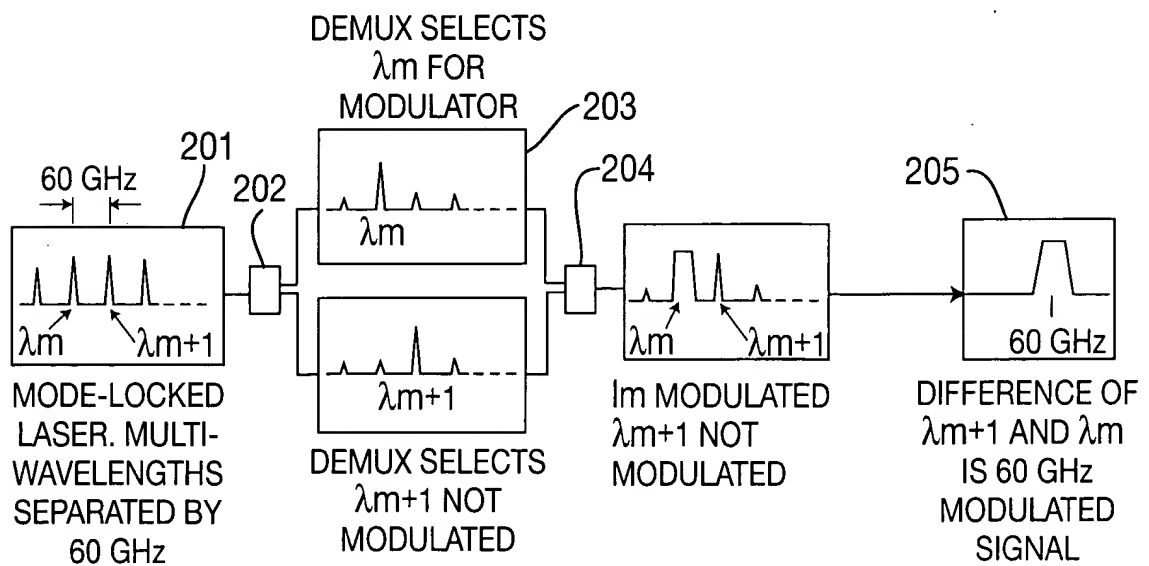
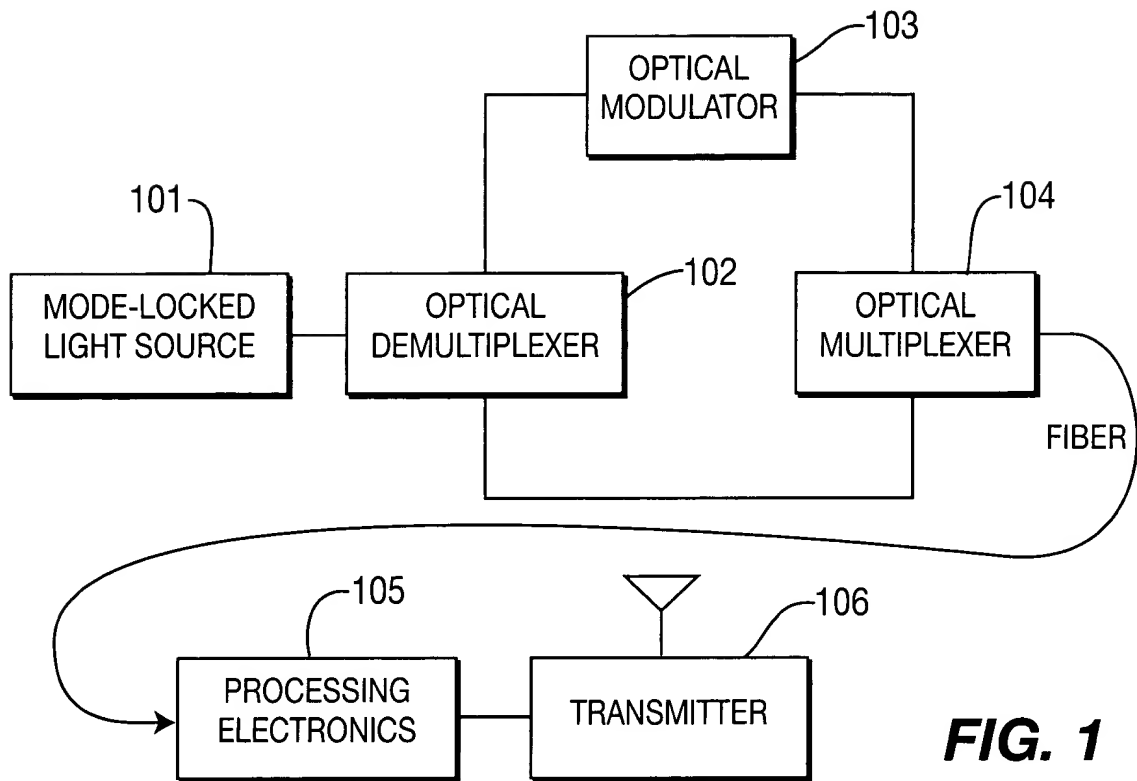
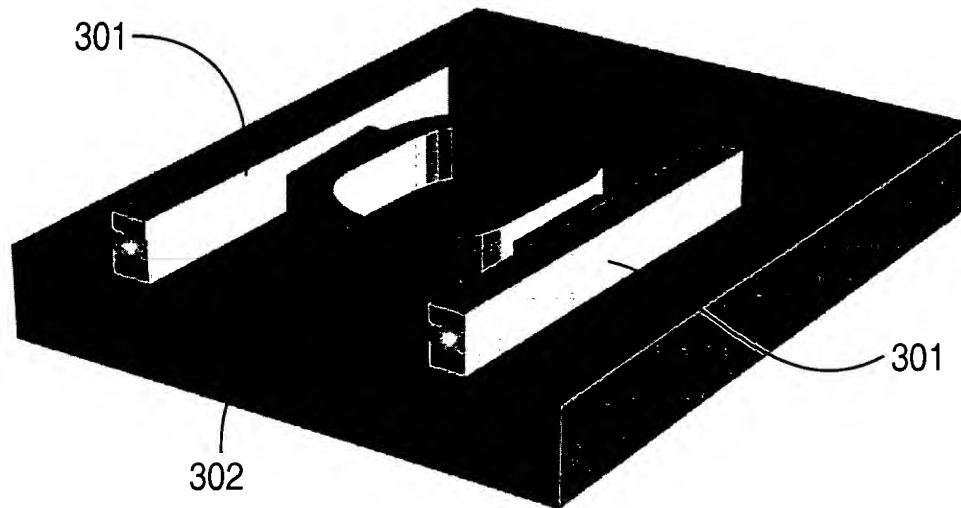


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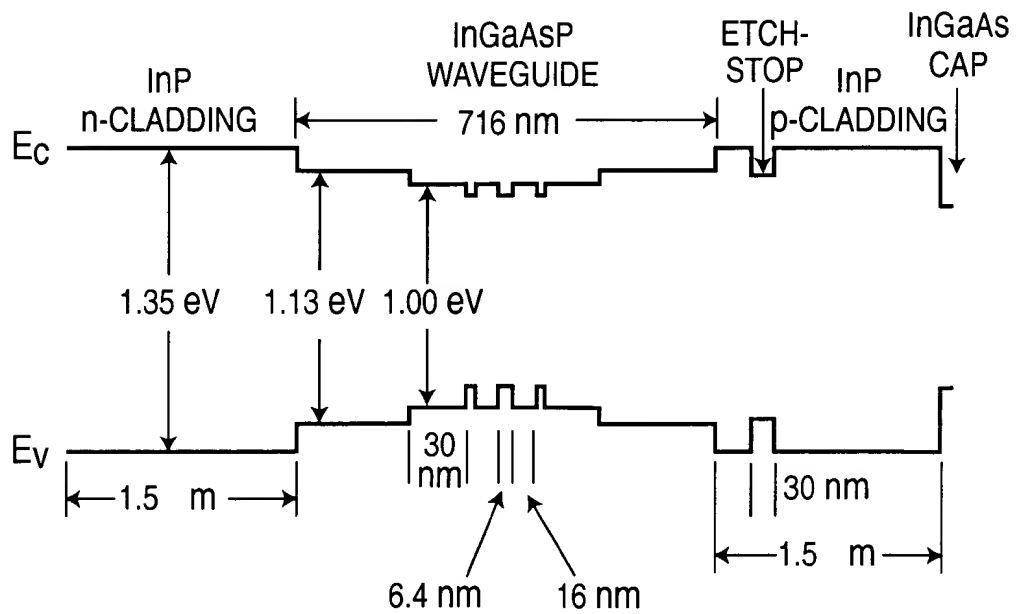


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SCHEMATIC DRAWING OF THE RACETRACK LASER.

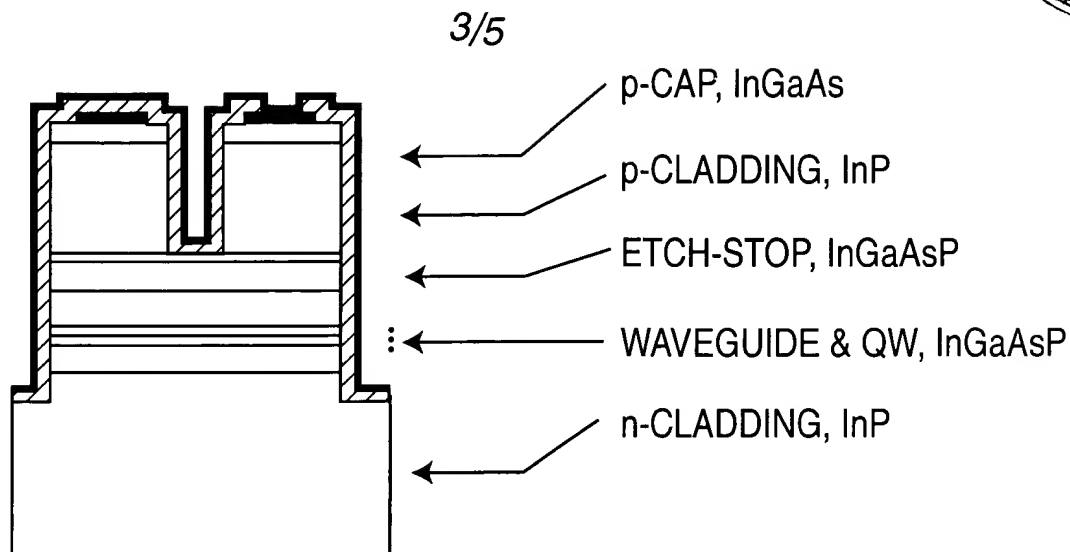
**FIG. 3**



THE SCHEMATIC DRAWING OF THE EPITAXIAL STRUCTURE.

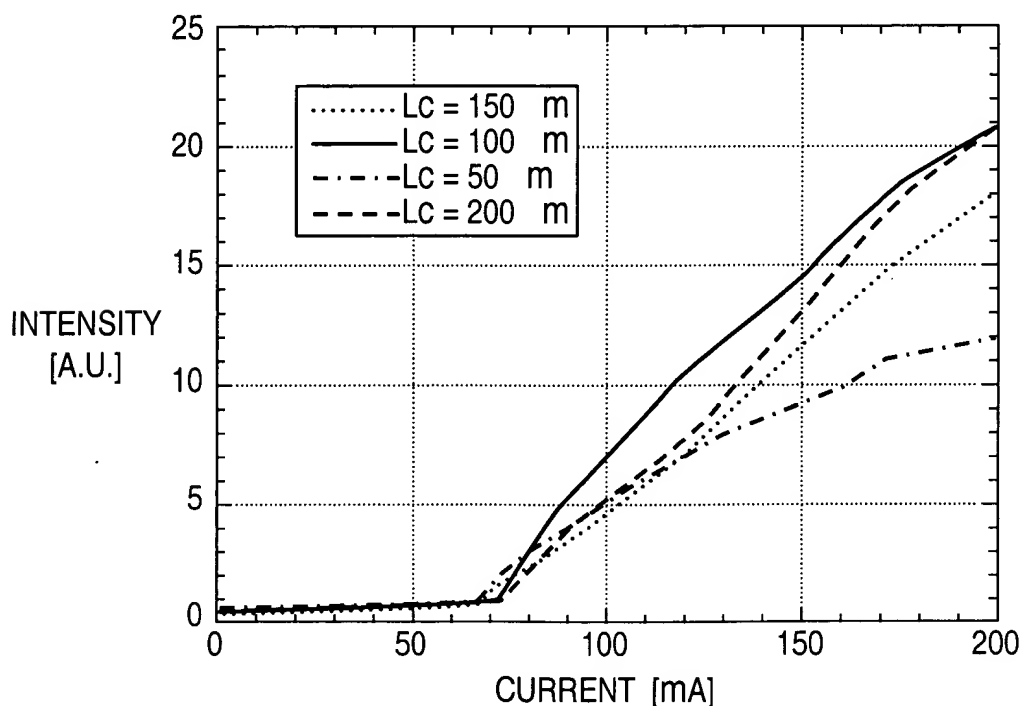
**FIG. 4**

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A SCHEMATIC DIAGRAM OF THE WAFER VIEW SHOWN IN CROSS SECTION TAKEN FROM THE COUPLING REGION BETWEEN THE RING AND THE STRAIGHT SECTIONS.

**FIG. 5**

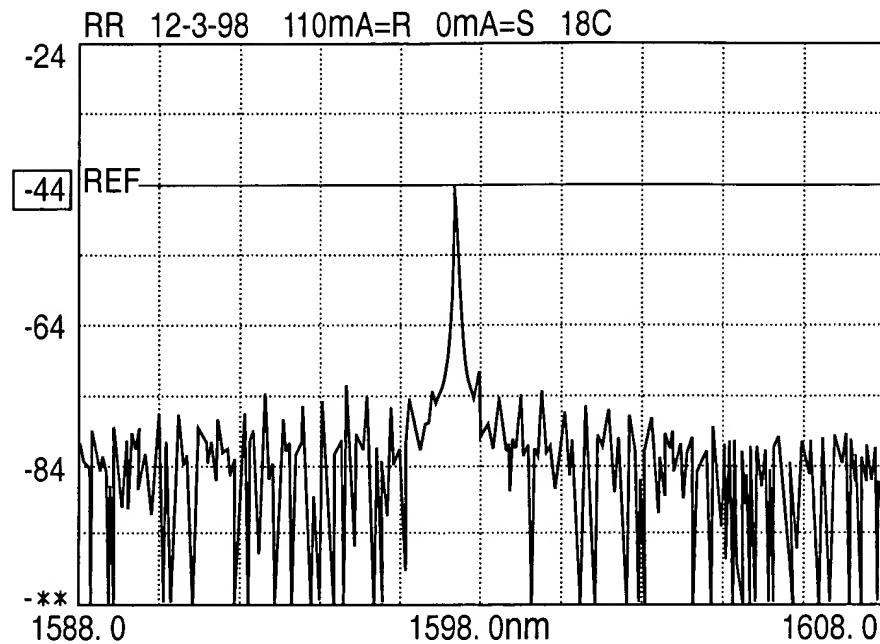


L-I CURVE FOR THE RACETRACK LASER WITH A COUPLING LENGTH RANGING FROM 50-200 m SHOWING NEARLY THE SAME THRESHOLD CURRENT FOR ALL CONFIGURATIONS, BUT WITH IMPROVED DIFFERENTIAL EFFICIENCY FOR THE 100 m COUPLER.

**FIG. 6**

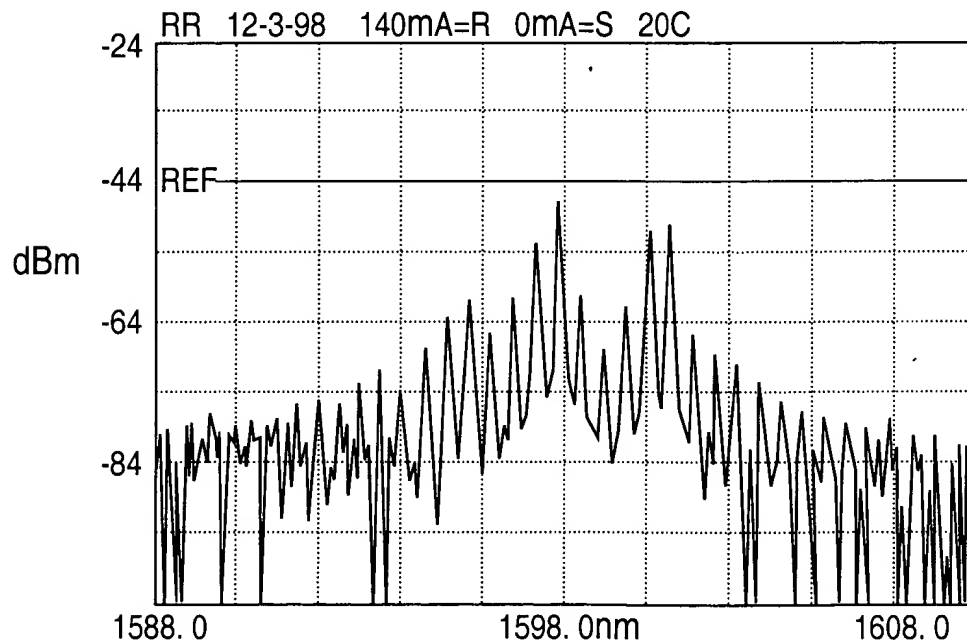


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LASING SPECTRUM OF THE RACETRACK LASER AT A DRIVE CURRENT  $I = 110$  mA, SHOWING SINGLE MODE OPERATION WITH AN SMSR = 26 dB. SINGLE-MODE OPERATION IS MAINTAINED FROM THRESHOLD TO NEARLY  $2 I_{th}$ .

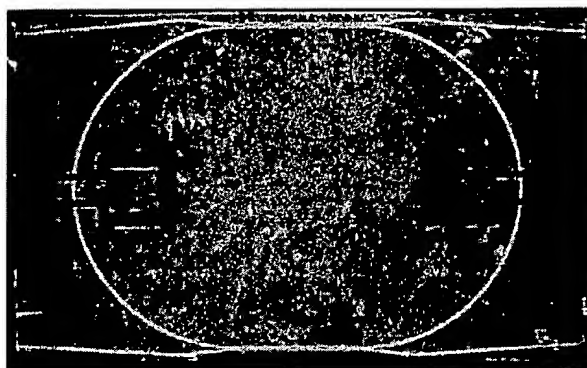
**FIG. 7**



LASING SPECTRUM AT A DRIVE CURRENT  $I = 140$  mA, AN ABRUPT TRANSITION FROM SINGLE-MODE (SEE FIG. 7) TO MULTI-MODE OPERATION, APPARENTLY DUE TO SELF-PULSATING.

**FIG. 8**

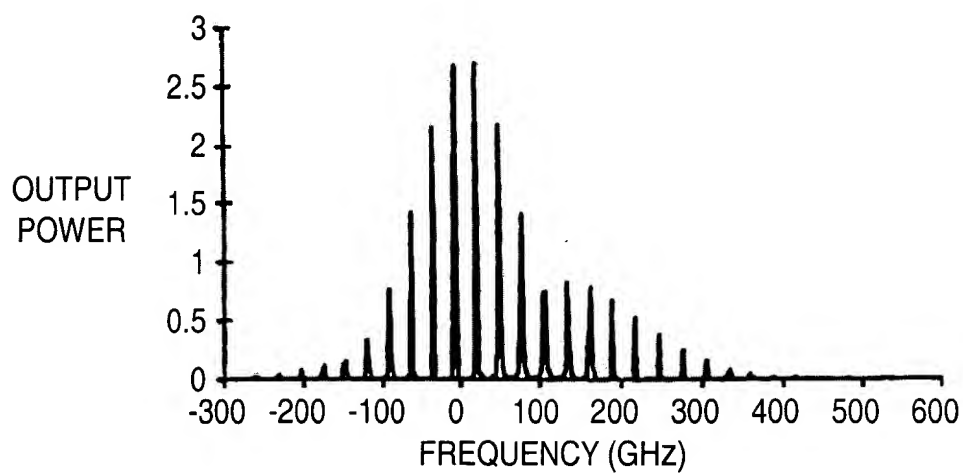
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DUAL-ABSORBER MODE-LOCKED RACETRACK LASER FABRICATED IN GaAlAs/GaAs.

**FIG. 9**

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COMPUTED OUTPUT SPECTRUM OF A PASSIVELY MODE-LOCKED RACETRACK LASER.

**FIG. 10**